DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: MITCHELL POND		Lake Area (ha):	5.87
Town: WINDHAM		Maximum depth (m):	4.2
County: Rockingham	m	Mean depth (m):	2.1
River Basin: Merrimack		Volume (m³):	120500
Latitude: 42°50'02"		Relative depth:	1.6
Longitude: 71°16'29"	W	Shore configuration:	1.18
Elevation (ft):	250	Areal water load (m/yr)	: 17.52
Shore length (m):	1010	Flushing rate (yr ⁻¹):	8.50
Watershed area (ha):	214.3	P retention coeff.:	0.49
<pre>% watershed ponded:</pre>	0.0	Lake type:	natural

BIOLOGICAL:	5 February 1996	31 July 1995
DOM. PHYTOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	CERATIUM 95%
#2		
#3		
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		3.84
DOM. ZOOPLANKTON (% TOTAL) #1	NAUPLIUS LARVA 48%	NAUPLIUS LARVA 37%
#2	KERATELLA 24%	VORTICELLA 21%
#3	CALANOID COPEPOD 15%	KERATELLA 19%
ROTIFERS/LITER	19	93
MICROCRUSTACEA/LITER	48	143
ZOOPLANKTON ABUNDANCE (#/L)	67	299
VASCULAR PLANT ABUNDANCE		Common/Abun
SECCHI DISK TRANSPARENCY (m)		3.0
BOTTOM DISSOLVED OXYGEN (mg/L)	1.3	0.2
BACTERIA (E. coli, #/100 ml) #1		2
#2		2
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.4 Hypolimnion volume (m^3) : None Anoxic volume (m^3) : 3400

CHEMICAL:			MITCHELL WINDHAM	POND	
	5 Febru	lary 1996	31 3	July 1995	
DEPTH (m)	1.0	3.0	1.0		3.0
pH (units)	6.1	6.2	7.1		6.7
A.N.C. (Alkalinity)	8.2	18.5	17.7		17.2
NITRATE NITROGEN	0.15	0.14	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.20	0.50	0.51		0.64
TOTAL PHOSPHORUS	0.015	0.020	0.012		0.025
CONDUCTIVITY (µmhos/cm)	102.5	216.0	159.9		161.8
APPARENT COLOR (cpu)	40	70	70		60
MAGNESIUM			1.28		
CALCIUM			9.5		
SODIUM		·····	15.7		
POTASSIUM			2.33		
CHLORIDE	17	45	34		35
SULFATE			7		8
TN : TP	23	32	43		26
CALCITE SATURATION INDEX			2.0		

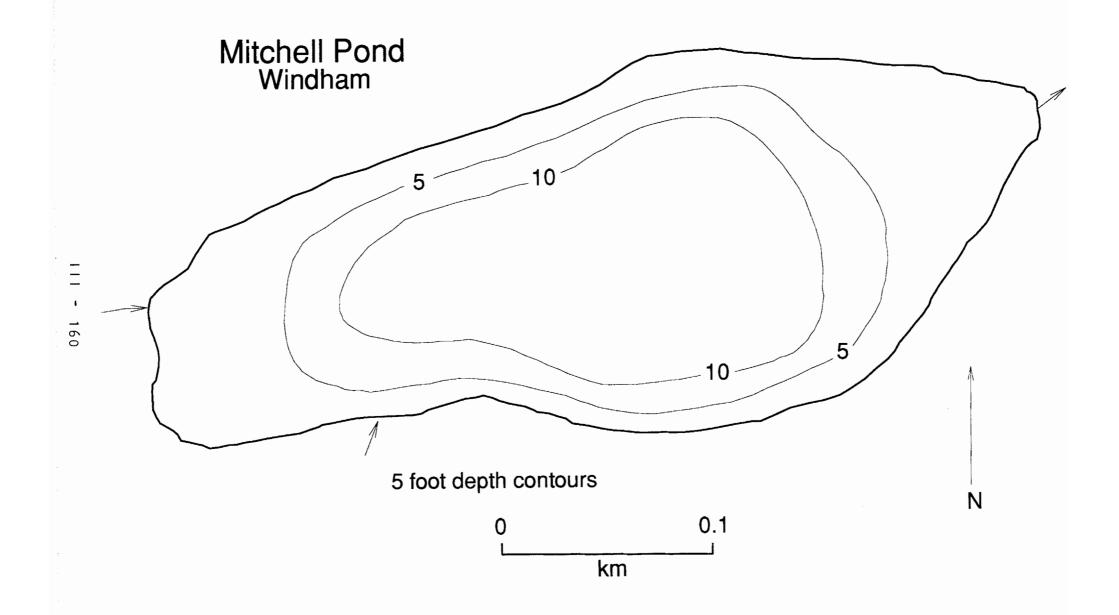
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1995

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	4	0	7	Meso.

COMMENTS:

- 1. No public access; pond was accessed via a 1.25 mile hike down an OHRV trail (old railroad bed) that was gated to vehicles. The launch into the pond is steep and into a very marshy area near the outlet.
- 2. A partial survey of the pond was conducted in 1976 on foot. A surface, shoreline sample was collected.
- 3. This is a tea-colored pond with substantial wetland areas around the pond. Sodium and chloride (and conductivity) values suggest runoff from salted highways despite the pond's remoteness. Tributaries to the pond drain Interstate 93.



FIELD DATA SHEET

LAKE: MITCHELL POND

DATE: 07/31/95

TOWN: WINDHAM

WEATHER: CLEAR & HOT (LOW 90'S)

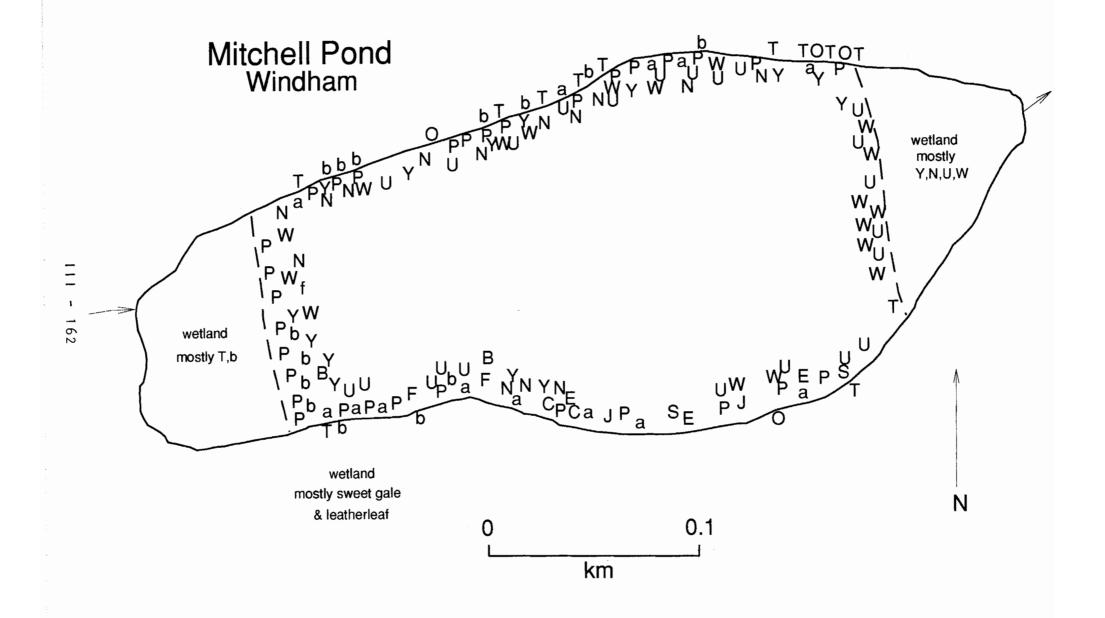
	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	27.0	7.8	97 %
	0.5	27.0	7.8	97 %
	1.0	26.7	7.5	92 %
	1.5	25.5	6.9	82 %
	2.0	23.5	6.8	78 %
	2.5	20.7	6.6	72 %
	3.0	18.3	7.0	74 %
	3.5	15.5	0.6	6 %
	4.0	13.5	0.2	2 %
	W			
	V. 44			
- -				

SECCHI DISK (m): 3.0 COMMENTS:

BOTTOM DEPTH (m): 4.2

TIME: 1330

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

E: MITCHELL POND	TOWN: WINDHAM	DATE: 07/31/95	
PLANT	NAME	1 DVIVID 1 VGD	
GENERIC	COMMON	ABUNDANCE	
Pontederia cordata	Pickerelweed	Scat/Common	
Nuphar	Yellow water lily	Scat/Common	
Nymphaea	White water lily	Scat/Common	
Sparganium	Bur reed	Sparse	
Cephalanthus occidentalis	Buttonbush	Scattered	
Typha	Cattail	Scattered	
Eriocaulon septangulare	Pipewort	Sparse	
Utricularia	Bladderwort	Scat/Common	
Potamogeton	Pondweed	Scat/Common	
Scirpus	Bulrush	Scat/Common	
Peltandra virginica	Arrow arum	Scat/Common	
Chlorophyceae	Filamentous green algae	Sparse	
Brasenia schreberi	Water shield	Sparse	
Nymphoides cordatum	Floating heart	Sparse	
Cyperaceae	non-flowering sedge	Sparse	
Juncus	Rush	Sparse	
	GENERIC Pontederia cordata Nuphar Nymphaea Sparganium Cephalanthus occidentalis Typha Eriocaulon septangulare Utricularia Potamogeton Scirpus Peltandra virginica Chlorophyceae Brasenia schreberi Nymphoides cordatum Cyperaceae	GENERIC COMMON Pontederia cordata Pickerelweed Nuphar Yellow water lily Nymphaea White water lily Sparganium Bur reed Cephalanthus occidentalis Buttonbush Typha Cattail Eriocaulon septangulare Pipewort Utricularia Bladderwort Potamogeton Pondweed Scirpus Bulrush Peltandra virginica Arrow arum Chlorophyceae Filamentous green algae Brasenia schreberi Water shield Nymphoides cordatum Floating sedge	

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

- 1. Wetland areas surrounded both inlets and the outlet.
- 2. Cattails and bulrushes are rated scattered and scattered/common respectively for the pond itself; however, they were both abundant in the wetland areas adjacent to the pond.